



**Engineering progress  
Enhancing lives**

## **Heat Network Solutions**

REHAU. Your district heating partner.  
[www.rehau.uk/districtheating](http://www.rehau.uk/districtheating)

**Expect more from REHAU.**

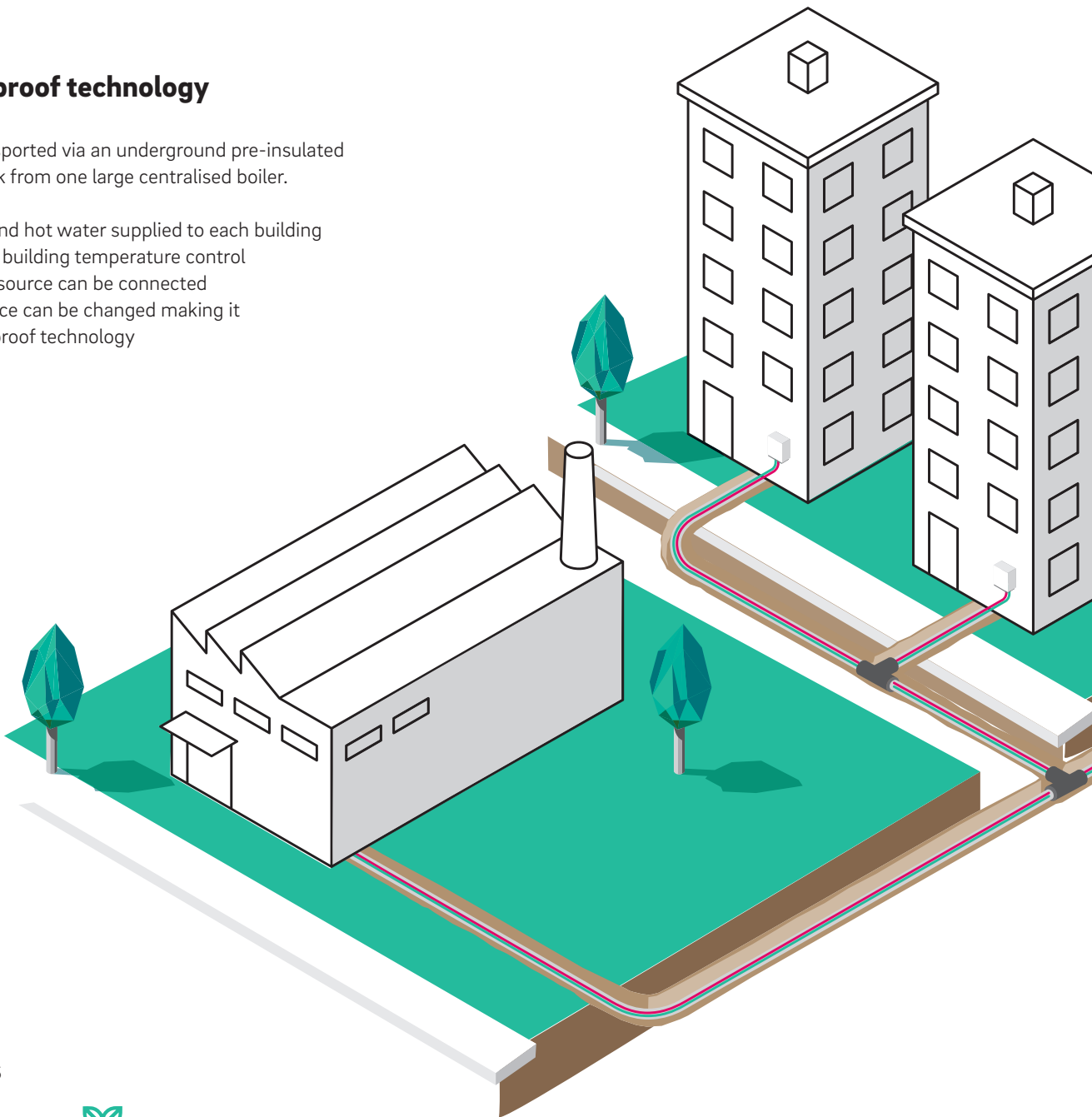


# What is district heating?

## Future-proof technology

Heat is transported via an underground pre-insulated pipe network from one large centralised boiler.

- Heating and hot water supplied to each building
- Individual building temperature control
- Any heat source can be connected
- Heat source can be changed making it a future-proof technology



## Benefits



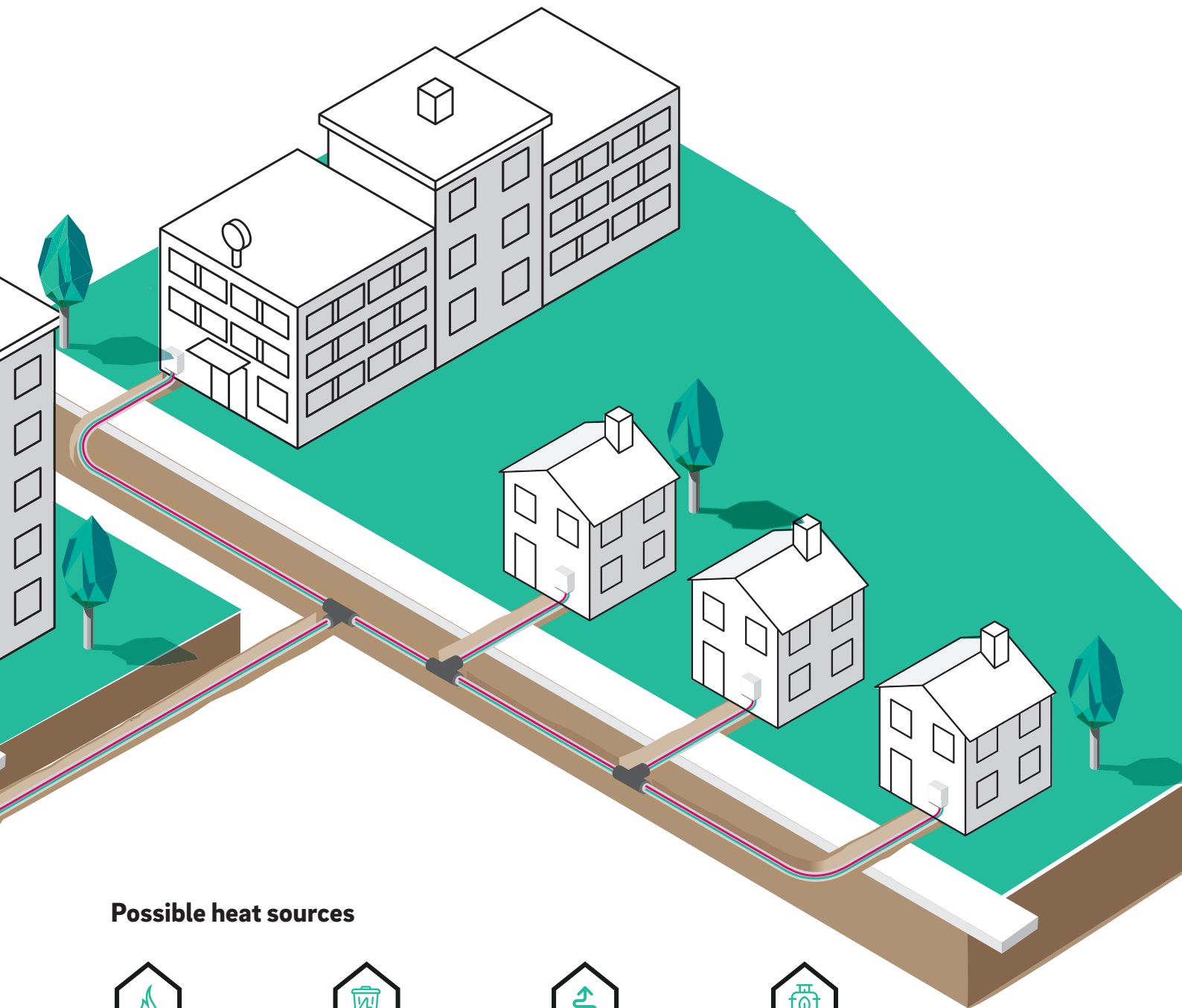
Carbon reductions



Environmentally friendly



Cost savings



### Possible heat sources



Gas



Air source  
heat pumps



Ground source  
heat pumps



Water source  
heat pumps



Biomass



Anaerobic  
digestion



Energy  
from waste



Waste  
heat



# Design support

## What we offer our customers

REHAU's key designers are trained CIBSE Heat Network consultants and can assist with the following using bespoke design software.

### **Pipe sizing**

Effective use of pipe sizes can help reduce both capital costs and heat losses

### **Optimisation of flow/return temperatures**

Achieving lower flow/return temperatures improves heat network efficiency

### **Diversity**

Applying a more realistic diversity can reduce plant sizes and pipe sizes

### **Pipe routing**

Having a more optimised route will reduce material and installation costs

### **BIM modelling**

BIM level 2 models are available for our district heating products

### **Heat loss calculations**

Heat loss calculations are essential to compare different pipes and network layouts

# Service you can rely on

UK based team



## Largest UK stock of district heating pipes

- Full cutting service
- 25-160mm in both RAUVITHERM and RAUTHERMEX



## Proud to support UK production

- Only UK manufacturer of PE-Xa district heating pipes
- Estimated 29% CO<sub>2</sub> reduction
- Production started in 2012



## UK sales & technical support

- 3 regional sales offices across UK/ROI with specialist district heating sales team
- On-site support available
- CIBSE-approved CPD presentations on heat networks



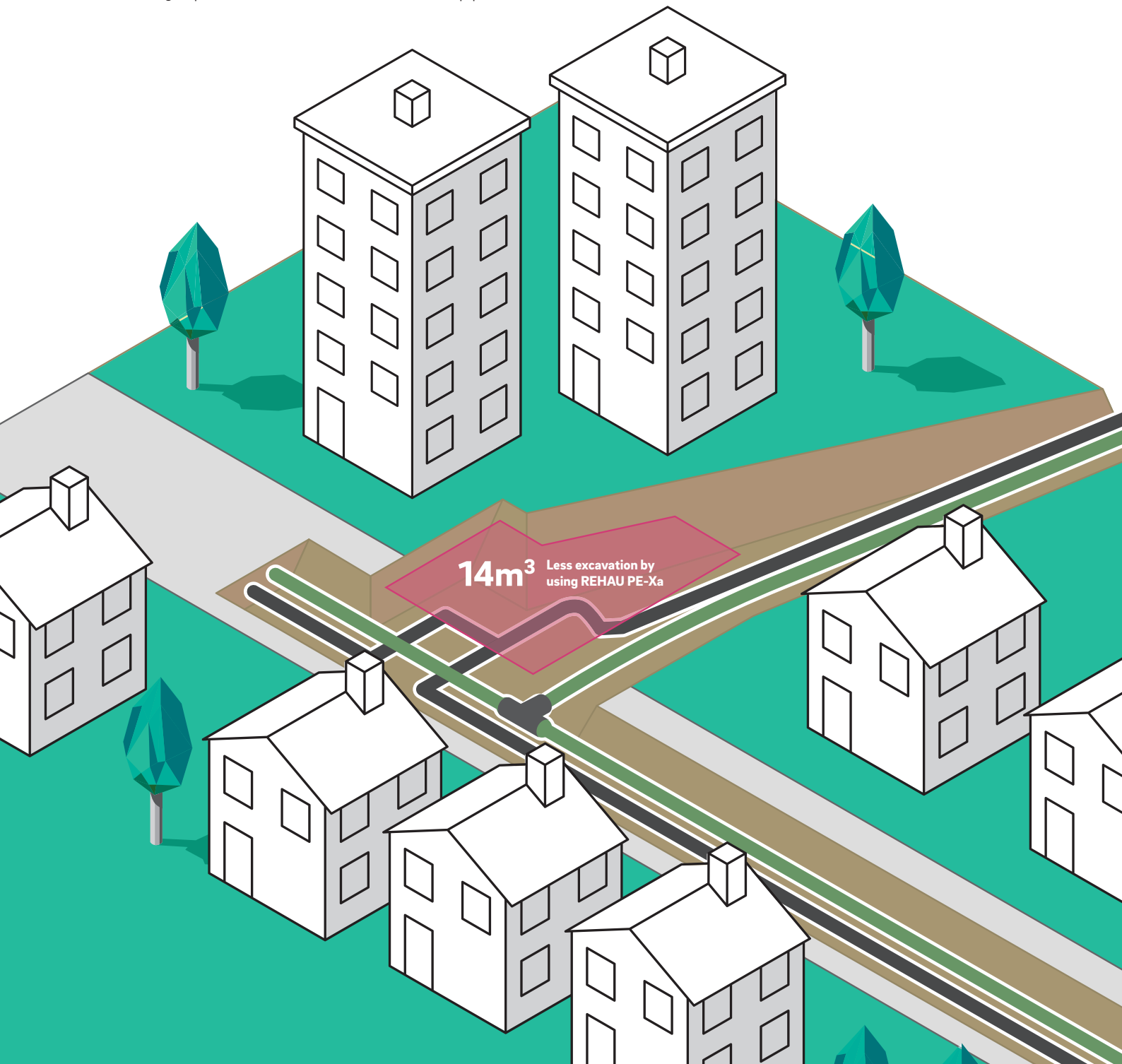
**Estimated  
29% CO<sub>2</sub>  
reduction**

# Benefits of REHAU PE-Xa

## Versus traditional district heating pipe materials

### Installation benefits of REHAU PE-Xa

- Optimised trenches due to PE-Xa flexibility
- Self-compensating in the ground, no need for expansion joints
- Coils up to 570m long
- Retrospective connections are possible
- Savings up to 30% on installation versus steel pipes





# PE-Xa quality

## Tried and tested

REHAU stands for quality. As a pipe manufacturer, the quality of materials and workmanship directly impacts the performance and lifespan.



### **Tested**

PE-Xa quality tests for over 38 years in the laboratory



### **Research & development**

Our R&D department created a special PE-Xa recipe for our district heating pipes to offer improved thermal performance



### **Longevity**

At 70°C and 8.5 bar, our PE-Xa district heating pipes will last over 50 years (DIN 16893)



### **Certification**

REHAU certified according to ISO 9001



# Complete pipe system

High performance pipes, shrouds and fittings



## RAUTHERMEX

The solution for medium - large heat networks

- Bonded PU foam with an excellent lambda value of  $0.0199 \text{ W/m}^2\text{K}$
- Largest flexible coiled pipe on the market (140mm)
- Largest DUO pipe on the market (75 DUO)
- RAUTHERMEX Plus available with thicker insulation
- 10 bar option available
- No expansion/contraction, so no requirements for expansion provisions



## RAUVITHERM

Flexible solution for small - medium heat networks

- Low weight and high flexibility
- Non-bonded PEX foam
- Only UK manufactured PE-Xa district heating pipe
- Coils up to 330m
- Now available up to 160mm
- Outer layer of foam is bonded to the outer jacket





**REHAU EVERLOC™**  
**compression sleeve**  
**technology**

- No hot works
- 850 million joints installed worldwide
- Up to 50% faster connections
- Full range of tees and terminations
- Minimal bore reduction



**RAUTHERMEX clip shrouds**

- New 2nd generation with improved sealing rings
- Up to 20° bending of pipe
- No hot works
- Externally tested to 0.3 bar watertightness to EN 489
- Uses high performance PU foam insulation



**RAUVITHERM heat shrink shrouds**

- Heat shrink solution
- Can be used with either RAUVITHERM or RAUTHERMEX, or to combine both pipes
- Externally tested to 0.5 bar watertightness to EN 489
- Uses high performance PU foam insulation

# PP-R Pipe

## Large diameter pipes for heat networks

To meet growing demands for larger heat networks, REHAU now offer pre-insulated PP-R pipes to allow a fully polymer heat network. These can transport over 16MW of heat at 80/50°C.

### 6 reasons to use PP-R pipe

- No expansion bends – this saves both installation and material costs
- Up to 37% lighter than steel and easier to handle
- Up to 19% lower pressure losses than steel
- Excellent corrosion resistance so no leak detection required
- Can be combined easily with REHAU's PE-Xa for fully polymer heat network
- Over 50 year lifespan at 70°C and 9.5 bar

PP-R pipe SDR 11	Nominal diameter	Outer casing pipe diameter
External diameter	Dimension	External diameter
160 mm	DN 125	250 mm
200 mm	DN 150	315 mm
250 mm	DN 200	400 mm
315 mm	DN 250	450 mm

Larger sizes available on request





# REHAU Nexus hot tapping system

First ever for PE-Xa district heating pipes

Unique to REHAU, the REHAU Nexus allows you to add retrospective connections to existing heat networks. REHAU NEXUS has been externally certified to TÜV SÜD for its performance.

## Benefits

- Up to 50% cost savings
- Up to 80% faster to install than conventional methods
- Maximum reliability to 110°C due to silicone safety seal



# Case Studies

Installations from  
across the UK

## 1 Portmeiron Village, North Wales

Type	Cottages, hotel & other public buildings
Product	3km of RAUTHERMEX
Heat Source	1MW Biomass boiler

## 2 Piperdam Luxury Resort, near Dundee

Type	Holiday resort (70 lodges)
Product	RAUTHERMEX pre-insulated pipe, RAUVITHERM pre-insulated pipe, Underfloor Heating
Heat Source	200kw - 1MW biomass boilers



## 3 Eleanor Street, Sheffield

Type	Social housing (170 homes)
Product	2km of RAUVITHERM
Heat Source	1.9MW Gas boiler





**4 Soho Farmhouse, The Cotswolds**

Type	Private estate & holiday cottages
Product	7km of RAUTHERMEX
Heat Source	1MW Biomass boiler & 3MW fossil fuel back up

**5 Riverside Installation, Glasgow**

Type	Social housing (+300 homes)
Product	RAUTHERMEX pre-insulated pipe
Heat Source	Air-source heat pump



**6 The Regional Performance Centre (RPC), Dundee**

Type	Dundee City Council
Product	RAUTHERMEX
Heat Source	Ground-source heat pump & CHP



# RAUTITAN MLCP plumbing system

Ideal for communal heating systems

## Features

- 10 bar WRAS-approved heating and plumbing system
- RAUTITAN Flex (PE-Xa) and Stabil (aluminium multilayer)
- REHAU EVERLOC™ compression sleeve fitting has been installed over 850 million times
- Independent certification of a 'cavity-free' joint
- Simple visual inspection
- Proven alternative to copper







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